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ABSTRACT

An overview of the Essential Skills Program at the National Institute of Education is presented in this paper. The paper is divided into three parts. In outline form, the first part of the paper describes the history of the program since its formation in December 1973. Also included in the first part is a short discussion of a number of the major short- and long-term research efforts in human learning to be initiated by the program in 1975. The second part of the paper (appendix A) outlines the program plans of the basic skills group--the area of the institute in which the Essential Skills Program has been located since December 1974. The third part of the paper (appendix B) is an annotated bibliography of documents produced by the Essential Skills Program. (Author)

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THE ESSENTIAL SKILLS PROGRAM:

BRIEF HISTORY AND FUTURE PLANS*

* A paper prepared for the AERA Special Interest Group on Reading by Marshall S. Smith and members of the Essential Skills Program staff, March 31, 1975.

CS 001 994

PREFACE

This paper presents an overview of the Essential Skills Program at the National Institute of Education. It has three parts. In outline form the first part of the paper describes the history of the program since its formation in December, 1973. Also included in the first part is a short discussion of a number of the major short and long-term research efforts in human learning to be initiated by the program in 1975. The second part of the paper (Appendix A) outlines the program plans of the Basic Skills Group--the area of the Institute in which the Essential Skills Program has been located since December, 1974. The third part of the paper (Appendix B) is an annotated bibliography of documents produced by the Essential Skills Program.

Essential Skills Program
National Institute of Education

I. Historical Overview

A. NIE was created in 1972 with a mission to carry out research, development and dissemination to improve the equality, quality and efficiency of educational services in the United States.

B. Late in 1972 the International Reading Association submitted recommendations to the Director of NIE urging that attention be devoted to research and development activities in reading and offering its services, along with a set of general research recommendations.

C. During the late summer of 1973 a small meeting chaired by Professor George Miller of the Rockefeller University produced a document for the NIE entitled Linguistic Communication: Perspectives for Research. The document strongly argued that research in reading be an NIE priority.

D. After carefully considering a variety of alternatives the NIE and the National Council on Educational Research (NIE's policy making body) established five priority programs. One of the programs was called Essential Skills which was charged with the responsibility for planning and implementing a major R&D effort in reading and language development with the understanding that a similar effort was to be undertaken in mathematics in the future. December, 1973.

E. During 1974 the Essential Skills Program worked in four principal areas.

1. Synthesis of on-going projects and programs: A portion of the Essential Skills staff, under the leadership of Dr. Joy Frechtling, identified some 78 research grants made by NIE on various aspects of reading and some eight reading-related development programs in Regional Labs and R&D Centers.

2. Research Grants Competition: The fiscal year 1974 grants competition conducted by NIE attracted 700 preliminary applications in the area of reading and language research, 125 of which were considered to be relevant to the program and extremely high in technical quality. The resulting 125 full proposals were reviewed by external panels, and 23 grants totalling $1.3 million were awarded.

3. Program Planning: The Essential Skills Program was located in the Office of Research of NIE. Other programs in that area included Teaching and Curriculum and Measurement and Methodology. The two other offices in the NIE focused on program development and on dissemination. In order to avoid costly overlap the Essential Skills Program focused on basic and applied research planning in the area of student and adult learning of reading competencies.

Six major planning activities were carried out during 1974. Reports from these activities are very briefly described in the attached bibiliography.

a). Conference on Eye Movement Research and Methodology. (See #5 in bibliography).

b). Description of Reading Comprehension Programs. (See #18 in bibliography).

c). Peer and Cross-age Tutoring of Reading. (See #'s 19 and 20 in bibliography).

d). Implications of Artificial Intelligence Research and Computer Simulation Studies for Understanding Language Comprehension: (See #21 in bibliography).

e). Learning Disabilities: Issues and Recommendations for Research. (See #22 in bibliography).

f). Conference on Studies in Reading: This was by far the largest of the planning efforts. Ten panels of practitioners and scientists each with four to seven members, after soliciting advice from another 150 practitioners and researchers, met in a five day intensive session in Washington last August. The documents resulting from these activities are described in the bibliography. (See #'s 6-6).

In addition two major related planning exercises were held by the NIE.

g). Conference on Research of Neural Mechanisms of Learning and Memory. (Report to be published by the MIT press - for information write John Mays at the NIE).

h). Conference on Research on Teaching: (Summaries of reports are available from the Teaching and Curriculum Program - Contact Garry McDaniels at the NIE).

4. Brought to completion a number of major curriculum development efforts in reading: Among these are the Pre-Reading program and the Design for Reading at the Wisconsin R&D Center, the New Reading System at the Pittsburgh R&D Center and the Language and Thinking Program at CEMREL.

F. In December of 1974 the NIE was re-structured. Part of the re-structuring was the creation of the Basic Skills Group -- to a large extent this amounted to a re-naming of the Office of Research. Included in the Basic Skills Group are the Essential Skills Program, the Teaching and Curriculum Program and the Measurement and Methodology Program. In the very near future each of these three programs will become divisions of the Basic Skills Group and the Essential Skills Program will be renamed the Learning Division. Unlike some bureaucratic moves this re-shuffling has some important consequences.

1). The mission of the Basic Skills Program is generally the same as the original planned mission for the Essential Skills Program -- to focus on research and development activities in reading with a future effort in mathematics. For budgetary purposes then a focus on reading is one of five itemized approaches. Although the Essential Skills Program was formerly one of five priority areas there were roughly 12 budgetary items.

2). Thus the resources directly devoted to problems in reading (and to some extent mathematics) increased dramatically over the past few months. From a staff of roughly 15 in Essential Skills the Basic Skills Group now has a staff at NIE of almost 50 people. And while it is somewhat difficult to determine the overall NIE funds directed toward research and development in reading 1976 program planning calls for 13.9 million or roughly 18% of the NIE request for 80 million. Moreover a substantial portion of these 13.9 millions will be available for funding research and development projects in reading. (Estimated 5.6 million in new projects). This compares very favorably with the 1.8 million available for the Essential Skills Program in 1974 and the 300K or so available in 1975 for new efforts.

3). Due to the consolidation of the Essential Skills Program with the Teaching and Curriculum and the Measurement and Methodologies Programs the breadth of activities can be greatly extended beyond a program of research on learning to include major efforts in research on the teaching and measurement of reading performance.

4). The re-structuring may also have future consequences. The NIE comes up for re-authorization this year. As part of the administrations proposal for re-authorization there is specific language which calls for the Institute to concentrate its resources on five problem areas -- the first of these areas is "improvement in student achievement in the basic educational skills, including reading and mathematics."

5). For your general information the key officials in the Basic Skills group are:

Arthur Wise -- Chairman Basic Skills Group
Ned Chalker -- Acting Director, Learning Division
Garry McDaniels -- Director, Teaching and Curriculum Division
Andy Porter -- Director, Measurement and Methodology Division

II. Plans for the future: During the past few months the Basic Skills Group has developed a series of plans for FY '76 (July 1975 - June, 1976). These plans represent a mixture of commitments to on-going research and development activities and planned new activities in the area of learning, teaching and measurement. They also represent a mixture of approaches--the choice among alternative research settings (laboratories, schools communities), the choice between directed or competed research, the choice between the concentration of funds in one Center or scattered funds among a large number of individual researchers, the choice among a large number of individual researchers, the choice among potential long-range, middle range or short term payoffs, all have powerful substantive and implications for our chances of accomplishing anything of lasting importance.

Although space does not permit a full description of all of the activities of the Basic Skills Program, I have attempted in the next few pages to give a flavor of some of the issues we are concerned with. The focus is on some of the research and development work that will be funded by the Learning Division. Over the next few months these descriptions will be translated into specific plans for grants and contracts activities which will be announced during the summer of 1975. We hope this year that the time between the date of the announcement of a research competition and the due date for proposals will allow researchers and developers in the field to write especially thoughtful and creative proposals.

Appendix A sets out the full program for the Basic Skills Group in outline format. More detailed descriptions may be obtained from the Basic Skills Group, NIE.

The following three sets of activities grew out of the planning efforts of the Essential Skills Program during 1974.

The first considers the need to develop measures to assess functional literacy; the second suggests three short term, policy-related problems and the third argues for longer term work in two basic research areas.

A. ESTABLISHING BENCHMARKS FOR FUNCTIONAL LITERACY

At present, parents and students can obtain only poor information about the degree to which functional reading and mathematics skills have been acquired. A test report telling that a child reads "as well as 53% of all seventh graders" does not tell what the child can do with his reading skills. Moreover, it does not tell how far he has progressed towards attaining the skills he will need as an independent adult. Public concern about the learning of basic skills is grave indeed. Courts have been urged to define "sufficient education" and new laws are demanding that high school graduates be able to demonstrate "competency." There is currently a "back to basics" movement in education which arises from the desire of many parents to be certain that their children receive a sound preparation for survival in an economically troubled world.

The Essential Skills Program proposes to develop an array of tests capable of providing information that children, parents, and schools can use to reach precise understandings about the adequacy of children's reading and mathematics skills. The tests would constitute bench marks against which individual and group progress could be measured in such functional areas as home management, consumerism, and civic participation. Tests for areas such as these could be combined with tests derived from various occupational and leisure pursuits to create different batteries appropriate to local conditions. Over time, state and local authorities could use the results of the test batteries (1) to insure that the curriculum effectively addresses student's needs for functional reading and mathematics skills, and (2) to identify students who need specific help.

During the first few months of FY76, we intend to complete a review of all previous attempts to assess functional literacy. The reviews presently available have been performed by constructing lists of attributes a "satisfactory" test should have, and then showing how the existing tests fail to satisfy the reviewer's requirements. We have in mind a review that would focus upon the utility of the existing tests, and the research upon which they are built, for facilitating the development of functional reading and mathematics curricula. In addition, the review should identify possible ways to get more information from the data collected in the process of developing the tests. Educational Testing Service, for example, analyzed the errors that respondents made on 170 test items and found three major

a theoretical hierarchy. Insofar as the sequence of skills set forth by the publishers represents a valid learning hierarchy, such decisions can lead to increased individualization and effectiveness. However, an invalid hierarchy may lead to severe limitations in the child's progress in reading. Examination of the current hierarchies used in teaching reading indicates that none of them are based on firm understandings of the many factors which influence the process of learning to read. Moreover, there is some evidence to indicate that the highly structured skill hierarchies tend to lock-step teachers and students into systems which ignore the needs and strengths of some of the students.

This in itself should be enough to justify research into this area--moreover, in normal circumstances we would expect that the natural reaction of many publishers would be to await such research before they fully adopt the movement. But the times are not normal. The growing emphasis on accountability and the assessment of specific skills by state and local districts has accelerated acceptance of a skills hierarchical framework for many reading series. In effect, new laws are beginning to determine the nature and structure of beginning reading texts. Unless immediate attention is paid to this issue the beginning reading series of the near future may reflect the needs and exigiences of the accountability movement less than information from research and informed practice.

Second, we lack specific information about the reasons for the problems encountered by many students during the late elementary grades. We do not know, for example, whether most children with reading problems in these grades lack simple decoding skills, lack fluency in decoding or lack comprehension skills. We do know, however, that the reading problems of many inner city children appear in the middle grades. If as many analysts think, these children learn how to decode, but either cannot decode fluently or cannot comprehend some of the materials it may imply that the Federal and State Governments are mistargeting their compensatory education funds by concentrating on the early grades at the expense of the middle grades. Without better knowledge of the precise nature of the problem, a rational policy for allocating compensatory funds cannot be developed. The investment is too great to be made on speculation. Better data are essential.

The third topic addresses an area that transcends reading. For ten year olds, reading comprehension scores on standardized tests correlate between 0.80 and 0.85 with conventional IQ tests. Moreover, tests of vocabulary knowledge correlate about 0.85 with both reading comprehension tests and with IQ tests and indeed are often used as short-form IQ tests. Work by psychologists and anthropologists indicates that each of these tests attempts to measure the size and nature of a child's domain of concepts. Further work indicates that the tests are inappropriate for cultural groups that are not in the mainstream of American society. In essence they use an

understanding of the concepts acquired by majority Americans to assess the size and nature of the concept domains acquired by minority Americans, who come from different cultural backgrounds where different domains of concepts are the norm. One important hypothesis for reading policy is that a direct assessment of the size and nature of appropriate concept domains of the different groups in American society may go a long way toward explaining group differences in both reading comprehension scores and in IQ scores.

Relatively direct policy implications could flow from data generated from studies of each of these issues. At the same time such data should have a long-term effect for they will contribute to our understanding of the processes underlying impact--yet they are critical to NIE's charge to provide effective, efficient and equal education.

C. DIRECTED LONG-RANGE RESEARCH ON READING

Three criteria have been used to select areas for research in this part of the Essential Skills plan. First, the research should address significant areas of present scientific inquiry--areas in which established and eminent scientists are working in sufficient numbers and with sufficient intensity to make it possible for the proposed research to be conducted in a responsible and expeditious manner. The second criterion calls for the research to have clear potential application to the learning and teaching of reading. (There are large areas of respectable study of language and memory for example, which show little promise for having important future application.) Third, since we have limited resources, we have further restricted our focus to areas where knowledge from research and knowledge from effective practice tend to complement each other.

Each of the two following research areas requires a number of interrelated research projects rather than a single research project.

The first program of research is in the area of attention and motivation. Over the past twenty years psychologists have set out the boundaries and conditions for understanding the importance of attentional processes in learning (see Berlyne, White, Hess and others). Educational researchers have begun to apply this knowledge to practice in the schools.

Hess and others finds that there are a variety of strategies employed by "good teachers" which fit with the more theoretical work and which tend to maximize the engagement time of youngsters learning in elementary classrooms. These techniques include the appropriate use of reinforcers, the proper mix of choice and direction in individual, small and large group activity, the power of peer involvement and instruction and the role of competition as a motivating device.

Other work on motivation and attention points to the importance of nutrition, of individual rhythms of the brain that influence learning, of the rhythmic and predictable pattern of activities in effective classrooms, and of the critical nature of the interaction between an individual child and the teacher in creating and sustaining attention. Still other work points to the importance of materials which are close to the experience of the individual child. All the evidence we have points to the facts that (1) almost all children come to school highly motivated and that (2) many children "turn off" by the end of the third or fourth year of school. It is critical that work in this area be supported to a level where teachers and parents have knowledge of strategies and techniques to reduce substantially the number of children who do "turn off". We need a systematic set of projects which will extend the research already begun, synthesize and popularize existing work, and try out some of the techniques in existing classrooms.

The second topic deals with explaining reading comprehension and finding strategies for teaching it. Traditionally reading comprehension has been taught as a series of skills derived from the analysis of tests of reading comprehension--a somewhat circular strategy that emphasized sets of descriptive concepts drawn from the nature of the demands placed on children in a testing situation and from some notion of the knowledge embedded in prototypic materials. This information was developed in part in reaction to the observations of early psychologists (Huey, Thorndike and others) That comprehension is thinking and that we do not know enough about thinking to justify building appropriate instructional programs

During the past few years psychologists and others may have broken the dam in their understanding of the way people think and comprehend materials. The term "information processing" has been applied to a body of theory and knowledge which gives strong promise of providing an understanding of the ways that people acquire, store, process and produce information. Anthropologists and psychologists are beginning to have a serious understanding of the impact of different cultural contexts on the achievement of youngsters in schools. The work of artificial intelligence people and linguists has begun to given insights into the short-range contextual impacts of different kinds of semantic and syntactic structures. Put together with these insights is the work of a variety of psychologists and reading experts on differential strategies for attacking and comprehending different kinds of material to be comprehended, on the power of active rather than passive reading strategies, on the importance of specialized vocabularies for comprehension of materials and on strategies for making materials more comprehensible. This congruence of the independent develpment of theory and the insights of successful practitioners has created a rare situation in educatinal research--a situation where we can reasonably predict in advance that the research will have long range impact.

APPENDIX A

March 1975

OUTLINE

PROPOSED FY76 ACTIVITIES*

BASIC SKILLS PROGRAM

NATIONAL INSTITUTE OF EDUCATION

* The outlined activities represent the plans for FY76 for the Basic Skills Program as of March 1975. During the next few months these plans will evolve slightly--some activities may be removed and some others may be added. The principal objectives, however, will remain the same.

PROPOSED FY 1976 ACTIVITIES BASIC SKILLS

Statement of the Problem: Too many adults lack the reading and other basic skills necessary to function in society. A Lou Harris survey estimates that twenty million adults reach only a "marginal survival threshold" when faced with the task of filling out applications for driver's licenses, bank loans, social security, etc. This hardship is disproportionately found among poor and minority families. Schools have thus far not solved the problem. In spite of compensatory education, large numbers of dropouts and even graduates are incompetent readers and lack other basic skills.

Principal Objectives

1. To establish benchmarks of competency in reading and other basic skills.

2. To determine causes for failure to attain adequate levels of competence in basic skills.

3. To improve strategies for teaching reading and mathematics.

4. To take the solutions that have been found and implement them in classrooms where the need is greatest.

Proposed FY 1976 Activities

1. Establishing Benchmarks

These activities are designed, first, to find out what level of competence in basic skills is required for productive work and for exercise of civic rights and responsibilities; second, to develop precise ways of assessing the competencies required; and third, to analyze the extent to which the schools might be held legally responsible for developing these competencies.

A. Task Analysis of Adult Needs for Basic Skills: Analyze the ways in which adults rely on reading and other basic skills and use the results to set minimum levels of performance.

B. Criterion-Referenced Testing: Develop methodologies and prototype instruments for the skills found to be required.

C. Test Bias: Investigate the unfair use of test results.

D. Educational Adequacy as a School Responsibility: Review judicial and legislative decisions relating to the adequacy of schools and analyze the implications of these decisions for school practice, educational research, and legal action.

2. Determining Causes

These activities are intended to better our understanding of why some children attain competency in basic skills while other fail. The proposed work will produce this knowledge in areas which are most likely to result in improved instruction. This work includes short-term research likely to have a substantial impact on government policy and longer-term research designed to profit from recent breakthroughs in allied behavioral and linguistic fields.

A. Policy Studies: Conduct four short-term studies to find out (1) whether laws leading to increased use of hierachical approaches in early reading instruction are ill-advised, (2) whether the part played by grades 1-3 in failure to learn to read ahs been overrated in comparison with the part played by grades 4-6, (3) whether the declines in computation scores among students have been mistakenly attributed to modern math, and (4) whether the differences among cultural groups in mean IQ and reading scores can be largely attributed to differences in vocabularly and concept domains.

B. Information Processing: Contribute to the rapid advances now being made in information processing research and orient this research toward problems of learning and instruction.

C. Reading Improvement Laboratory: Support a center of proven impact on both research and practice as a means of focusing cognitive development and information processing research on instructional problems.

D. Motivation and Attention: Apply basic psychological research to the development of classroom techniques for increasing motivation and maintaining attention.

E. Inner-City Facilitators: Identify sociological and psychological factors which facilitate learning in the inner city.

F. Learning Disabilities: Stimulate and coordinate research on the socio-cultural, neuropsychological and educational aspects of learning disabilities.

G. Completion Grants: Make final payment for grants initiated in FY 1974.

3. Improving Instruction

These activities constitute a fourfold effort to cultivate effective instruction. First, they promote practices already known to be effective. Second, they are intended to identify other ways in which schools and teachers are currently effective. Third, they will develop new practices (particularly in individualized instruction). Fourth, they seek to correct methodological defects which have prevented us from identifying or developing effective practices in the past.

A. Teachers' Guide to Comprehension: Reduce confusion among practitioners on ways to teach comprehension by producing a guide comparing current theories and approaches.

B. California Beginning Teacher Study: Provide a research base competency based teacher education by identifying what teachers do to make a difference in the learning of reading and math in the second and fifth grades.

C. The Teacher's Role in Highly Structured Curricula: Through analysis of teacher training, incentives and selected activities, enhance the contribution teachers make to highly structured curricula.

D. Individually Guided Instruction Systems: Meet the demand for individualized instruction by supporting the continued improvement of the systems most likely to become self-sustaining.

E. Secondary Analysis Center: Provide a capability for answering questions about the validity of previous findings or the effectiveness of practices documented in existing data sets.

F. Removal of Methodological Obstacles: Solve methodological problems known to have reduced the value of previous instructional research.

G. On-Going Curriculum Development Projects: Complete curriculum development previously funded and largely finished.

4. Implementing Solutions

The purpose of these activities is to give the results of the Basic Skills Program high visibility and to provide the incentives and training necessary for their implementation.

A. Mission-Oriented Teacher Centers: Establish teacher centers which will focus on basic skills and which will underwrite the involvement of teachers in the implementation of basic skills products.

B. Leadership Education: Try out activities which could aid the leaders of teacher organizations in their search for solutions to issues confronting the schools.

C. Evaluation Techniques for Practitioner Use: Develop and market evaluation techniques which are designed for use by practitioners.

APPENDIX B

DOCUMENTS OF THE ESSENTIAL SKILLS PROGRAM

AN ANNOTATED BIBLIOGRAPHY *

* Sometime in the very near future the Essential Skills Program will become the Learning Division of the Basic Skills Group. Information about the availability of each document is current as of February, 1975. If you encounter any difficulty in obtaining a document, please contact Monte Penny, National Institute of Education, Learning Division, Basic Skills Group, Washington, D.C. 20208.

1). Miller, George A. (ed.) Linguistic Communication: Perspectives for Research, Newark, Delaware: International Reading Association, 1974.

The report of the (1973) Summer Study Group on Linguistic Communication chaired by Prof. Miller and sponsored by the NIE. Makes recommendations for needed research on assessment, culture and motivation, basic literacy, comprehension, instructional contexts and writing. Proposes that NIE establish a program office to coordinate a major research and development effort. This document was a major factor in the December 3, 1973, decision by the National Council on Educational Research -- NIE's policy-making body -- to establish the Essential Skills Program. Available from IRA ($1.50 members; $2.00 non-members) or from Learning Division, Basic Skills Group, NIE, (single copies, free).

2). Smith, Marshall S., "Reading Research and Development at the National Institute of Education," presented to the Convention of the International Reading Association, May, 1974.

Presents the history of the Essential Skills Program and summarizes the recommendations made by the (1973) Summer Study Group on Linguistic Communication. Available from the Learning Division, NIE and ERIC.

3). Smith, Marshall S., "The Essential Skills Program," presented to the 1974 Convention of the American Educational Research Association.

Discusses the development of the Essential Skills Program with emphasis upon the planning of research on comprehension, on artificial intelligence, and on visual information processing. Available from the Learning Division, NIE.

4). Penney, Monte "The Relation Between NIE's Essential Skills Program and Earlier Federal Initiatives in Reading Research."

Discusses the Targeted Research and Development Program on Reading from its inception in 1967 to its end in 1971. Analyzes shortcomings of that program and suggests its implications for the Essential Skills Program. Available from the Learning Division, NIE.

5). Gibbon, Samuel Y. Jr., (ed), Report of the Conference on Eye-Movement Research and Technology to the National Institute of Education.

Reports the recommendations of a working conference on research in visual information processing. Some 42 scientists contributed to the preparation of this document, either by attending the two-week conference or by mailing in their written recommendations. Specifically, the document deals with needed research on text, pictures and graphic displays; with basic and applied studies of television viewing; with research on developmental changes in visual information processing; and with development of better instrumentation for eye-movement research. Papers from twenty (20) of the contributors are appended. (To be available through ERIC.)

6). Miller, George A., et. al., Semantics, Concepts, and Culture, the report of Panel I, Conference on Studies in Reading, August, 1974.

Recommends research on work recognition skills, sentence comprehension skills, and text comprehension skills. Each of these areas is elaborated into four programs concerned respectively with: models of adult performance, development of the skill area in children, information needed to facilitate development, and implications of cultural variations. The programs are further divided into project-sized activities. (To be available from the Government Printing Office.)

7). Trabasso, Thomas, et. al., Structure and Use of Language, the report of Panel II, Conference on Studies in Reading, August 1974.

Specifies an array of approaches to understanding the structure of text, the measurement of comprehension, the effects of text structure upon comprehension, the development of linguistic knowledge, the linguistic and cognitive characteristics of bilingual populations and the process of extracting meaning from discourse. Specific research activities are derived from these six approaches. (To be available from the Government Printing Office.)

8). White, Sheldon, et. al., Attention and Motivation, the Report of Panel III, Conference on Studies in Reading, August, 1974.

Recommends three approaches to understanding the roles of attention and motivation in reading: the engagement process of the individual child, the interaction of teacher and child, and the antecedents of influences on teacher behavior. The three approaches are elaborated into approximately 40 proposed research activities. (To be available from the Government Printing Office.)

9). Venezky, Richard, et. al., Models of the Reading Process, the report of Panel IV, Conference on Studies in Reading, August, 1974.

Reports the recommendations of Dr. Venezky's panel and those of the 50 persons who contributed papers regarding studies which are needed to model a number of key processes: eye-movement guidance, word recognition, integration of word meanings into higher order structures, reading behavior of skilled adults and by children at various stages, re-reading of material by skilled adults and by children at various stages, retention as a result of reading vs., listening, and development of reading ability in children. (To be available from the Government Printing Office.)

10). Rothkopf, E.Z., et. al., Issues in the Assessment of Reading Comprehension, the report of Panel V, Conference on Studies in Reading, August, 1974.

Presents a four-part strategy for developing knowledge which would lead to better methods for assessing comprehension: analysis of reading demands in the society, identification of psychological factors involved in satisfying task demands, evaluation of individual performance and instructional outcomes, and design of written materials for effective human use. (To be available from the Government Printing Office.)

11). Resnick, Lauren, et. al., Applications of Existing Reading Comprehension Research, the report of Panel VI, Conference on Studies in Reading, August, 1974).

Divides the problem area into three approaches: teaching implications of current theories of language comprehension, instructional practice as the source of instructional design and theoretical model building, and analysis of real world comprehension tasks. Further divisions of the approaches deal with self-monitoring strategies for comprehension, development of instructional techniques, and many other topics. (To be available from the Government Printing Office.)

12). Shaughnessy, Mina, et. al., Reading Comprehension and the High School Graduate, the report of Panel VII, Conference on Studies in Reading, August, 1974.

Addressed to the needs of the open-enrollment student who cannot adequately comprehend college materials, this paper discusses needed research on the students themselves, on current instructional practices, on the nature of the tasks confronting such students, on new instructional methods, and on institutional change. (To be available from the Government Printing Office.)

13). Hodges, Richard, et. al., Learning and Motivation in Early Reading, the report of Panel VIII, Conference on Studies in Reading, August, 1974.

Suggests needed research on assessment of achievement motivation, differences in delivery systems, effects of different instructional approaches, and contrasts between learning to read and learning in other areas. Subdivisions of these approaches include work on non-traditional instruction and teacher-learner interaction. (To be available from the Government Printing Office.)

14). Ramirez, Manuel, et. al., Reading Strategies for Different Cultural and Linguistic Groups, the report of Panel IX, Conference on Studies in Reading, August, 1974.

Specifies needed research on characteristics of minority groups children and on learning environments and teaching practices most likely to be appropriate for them. Also calls for work on community factors and on the characteristics of written materials, including tests. The subareas derived from these main ones stress the importance of cultural factors such as learning styles and human relational styles. (To be available from the Government Printing Office).

15). Athey, Irene, et. al., Essential Skills and Skills Hierarchies in Reading Comprehension and Decoding Instruction, the report of Panel X, Conference on Studies in Reading, August, 1974.

Suggests ways of examining the many learning hierarchies and skills hierarchies concerned with reading in order to determine their validity. Describes a number of activities aimed at improving the use of skills hierarchies in instruction and extending knowledge about hierarchies appropriate for different populations. (To be available from the Government Printing Office.)

16). Conference on Studies in Reading: August 18-22, 1974. (A document generated by Panel Chairpersons and program staff to orient panelists and observers to the purpose of the conference.)

Discusses the need for comprehensive planning of a research program; presents the planning method developed for this conference; describes responsibilities of participants; provides guidance for conducting the individual panel sessions; presents the introductory problem statements written by the ten chairpersons; and lists all participants in the conference. (To be available from ERIC.)

17). Eaton, Deborah L., "NIE Attacks the Reading and Language Skills Problem," American Education, May, 1974.

Reports the progress of the Essential Skills Program through May, 1974, and relates ongoing research funded by NIE to plans then being formulated. Available from the Learning Division, NIE.

18). Goodman, Kenneth, S., Description of Reading Comprehension Program and Analysis of Available Effectiveness Data: The Middle Grades, Report of NIE contract number NIE-C-74-0140, (in progress).

Proposes a paradigm of models and theories of reading instruction for the purpose of developing criteria for prototypes of reading comprehension programs and evaluation instruments; identifies and describes a structured sample of reading programs currently being used in grades 4-6; and explores existing knowledge about reasonable expectations for reading comprehension in grades 4-6. (To be available through ERIC soon after June 30, 1975).

19). Calfee, Robert C., Guidelines for Comprehensive Study of Tutoring in the Elementary School, Report of NIE contract NIE-P-74-0213, August, 1974.

Synthesizes current research on cross-age tutoring and recommends alternative research designs for study the effects of cross-age tutoring on the tutor. Appendix A to the document presents critiques of selected articles on cross-age tutoring identified through an ERIC search; Appendix B lists all documents identified in the search. (Available from ERIC.)

20). Bloom, Sophie, Effects of Tutorial Reading Programs on Inner-City Children, Report of NIE contract NIE-P-74-0214.

Synthesizes current research on the effects of tutoring in an urban school setting and recommends alternative designs for research on the effects of tutorial reading programs on Inner-City Children. (To be available through ERIC.)

21). (Documents on Artificial Intelligence Research as it relates to language comprehension). A series of commissioned papers explore the implications of artificial intelligence research and computer simulation studies for understanding language comprehension. Papers by an MIT group (Ira Goldstein, Seymour Papert, and Marvin Minsky) and by Yorick Wilks of Stanford University will summarize current knowledge; the MIT group and Terry Winograd of Stanford are preparing separate papers on the future of this research area; Drs. Coles, Robinson, and Walker of the Stanford Research Institute are preparing a directory of researchers who are active in artificial intelligence work on language comprehension. (These reports will be available through ERIC by June, 1975).

22). Brainard, Suzanne Gage (ed). "Learning Disabilities: Issues and Recommendations for Research". This contains eight papers derived from the National Institute of Education Conference on Learning Disabilities, July, 1974. Participants and authors include Marion Blank, Susan Cary Block, Chester Pierce, Rita Rudel and others. The report is available from the Learning Division, Basic Skills Group, NIE in single copies (free). To be available from ERIC.